

# PSYCHE.

ORGAN OF THE CAMBRIDGE ENTOMOLOGICAL CLUB  
EDITED BY B. PICKMAN MANN.

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## The Mandibles of the Larvæ of *Eros*.

The mandibles of all the larvæ of the Coleoptera, with the single exception described in this paper, as far as I am aware, are in the normal position, that is, at the sides of the oral opening, and have lateral action; but in the larva of *Eros thoracicus*, a member of the predaceous family Lampyridæ, we find an exception to what has hitherto been considered the rule.

The larva is about twelve millimetres long, rather thick, fleshy and grub-like, somewhat appressed; the body at the terminal two or three segments of either end narrows a little; the head is small and transverse. The color of the body is light bright lemon, the dorsal surface of each segment having a large patch of brownish yellow. The legs are short, and the motions of the larva are slow and clumsy; when disturbed, it curls quickly on its side, after the manner of some of the saw-fly larvæ.

I give the above very abbreviated description, so that one may know the larva and verify what I am about to write. What larvæ I have taken I have found either in the soft decayed wood of dead pines, or between the loose bark and wood of the same trees; but they are rarely found; at least such is my experience.

I was desirous of breeding the first specimen that came to my hands. When I began to make a description of it, I found, as I thought, that the mandibles were altogether absent, and that the labrum was of a singular shape, and described the latter, at the time, as "crescent-shaped, with the horns prominent and attached to the front by a narrow portion of the base." It

was only when I noticed that the so-called labrum was divided into two, and that each portion had independent motion, that I discovered that what I called the labrum was the mandibles; but now I was as much at a loss to account for the presence of the mandibles in this anomalous position as before for their absence. The place of their attachment is under the clypeus, at the margin of the front. The clypeus is apparently absent, but a specimen of the larva prepared for the microscope shows a small piece which is no doubt the clypeus. When this piece is removed, the manner of the hinging of the mandibles is easily seen, but it is necessary to have the head transparent and properly mounted to see it to advantage. In such a specimen, a rather broad, thickened line will be seen on each side of, and somewhat distant from, the middle line of the head; these two lines are on the interior surface and do not appear at all in the opaque specimen. They diverge rather broadly behind and terminate anteriorly at the clypeal suture; at this end there is a cavity which receives a short, stout process proceeding from the mandibles on their outer, or, in this position, posterior surface, at about one fourth their length from their extreme base. Two slender, rather long processes are produced forward from the space between the ends of the lines; these, in their natural position, I think, have a somewhat downward curve; in the specimen under examination they are pressed flat. The mandibles are divided from their base for about one third of their length to receive these processes, which are produced through them. These last mentioned processes I suppose to be points of muscular attachment. The mandibles are rather slender and acute at the tips; they have a very strong downward curve, but only a slight outward curve, with the tips pointing directly forward. Looked at directly in front, in the living insect, the mandibles form two sides of a rather acute triangle with its narrowly truncate apex at the middle line of the clypeus.

From their position, their manner of articulation, and their form, one would be led to think that the mandibles could not have the usual lateral action, and such is the case. The only motion they have is a vertical one, but it is possible that they move on a curve; if the slender processes in front are

straight, in their normal position, they would seem to preclude a direct vertical action, but if they have a downward curve, as I think they do, they would in no manner hinder it. But, whether the motion is directly vertical, or vertical with a curve, the tips are never brought together, nor in approximation even. The mandibles have separate action; one will be raised, and then the other, and both together, but I have never seen the tips approach each other, nor ever seen any lateral movement. When a larva is disturbed, it will withdraw the mandibles almost entirely within the oral cavity, but always with a downward motion.

Naturally it occurs to one to inquire the use of such organs. It is easily seen that they can be of little use in taking prey; it would seem impossible that the larvæ could capture any living thing with such a pair of mandibles, and the maxillæ are of such a form as to be of no assistance, being very short, straight, and furnished with one or two bristles only at the end. I am inclined to think, in view of the facts, that the larvæ of *Eros*, at least of this species, are vegetable feeders, and, as it would seem that nothing but the very softest of tissues would yield to mandibles so disadvantageously placed, I think it possible that the larvæ may feed on the delicate fungoids which are so numerous in the spring under the bark of moist decaying pine stumps. I much desired to see the larvæ in the act of feeding, but never did so, and, as it may be many seasons before I take another, I shall feel under obligations to any reader of this paper, if they would forward any specimens they may take to my address at Malden, Mass. The living insect would reach me in good order if enclosed in a vial with a little of the soft decayed wood such as will be found in the same position as the larvæ; if the wood is dry, it would need to be slightly moistened.

I bred three specimens to the perfect insects; two of which, a male and female, are deposited in the Randall Collection of the Boston Society of Natural History; the other is in my own collection.

*Henry L. Moody.*

ENTOMOLOGICAL NOTES. I have captured twelve specimens of *Habrosyne scripta* Gosse, this season, by sugar. I have never seen it here before. I have recently captured sixty-six specimens of *Hyperchiria Io* ♂, attracted by two females; a perfect specimen of *Darapsa versicolor*, June 25, and *Catocala Briseis*, July 15, both at sugar.

I have raised the larva of *Ablepharon Henrici*. It eats grass; is a hairy caterpillar, resembling *Acronycta obliquata*; spins a moderately tough cocoon very like that of *A. obliquata* in shape and texture.

I have raised *Plusia aeroides*. It feeds on Meadow-sweet (*Spiraea salicifolia*); is a curious hunched larva, light pea-green, marked with greenish-white; walks like a Geometrid; turns milky white before spinning a light white cocoon. The pupa is light green, with large black patches on the back. Spun June 26; imago July 6. Roland Thaxter, Newtonville, Mass.

## BIBLIOGRAPHICAL RECORD.

Authors and Societies are requested to forward their works to the Editor at the earliest date possible. We ask our readers to inform us of the publication especially of those works which are not generally consulted by entomologists.

B. Pickman Mann.

(Continued from page 183.)

\* 560. **Alfred E. Beach.** The Science Record for 1874. A Compendium of Scientific Progress and Discovery during the past year. With Illustrations. New York, Munn, 1874. 8vo. pg. 598, fig.

a. The Bark-Louse [discovery of the male of *Mytilaspis conchiformis* (by C. V. Riley)], p. 356. b. Remedy for the Cotton-worm [ravages of *Aletia argillacea*; means against it], p. 370-371. c. The Cocuyo [luminosity of *Pyrophorus noctilucus*], p. 484-485. d. The Honey-making Ant [reprint of the article cited in Rec., No. 541], p. 486-489. e. Sting of the Queen-Bee [said to be incapable of penetrating human skin, but to cause death when plunged into the spiracles of another bee], p. 489. f. The Musk Beetle [beauty and habits of *Cerambyx moschatus* (from Hardwicke's Science Gossip)], p. 489-490. g. Venomous Spiders in New-Zealand [habits and transformations of the "katipo"], p. 491-492. h. Coloring of Cocoons [red, green, yellow or violet cocoons obtained by various feeding of silk-worms], p. 492. i. The Phasmid, or Walking-Stick [habits and appearance of a New Zealand Phasmid], p. 492-493.

\* 561. **A. E. Beach.** The Science Record for 1875. A Compendium [etc., see Rec., No. 560]. 1875. 8vo. pg. 597, fig.

a. Sections of Insects' Eyes [reprint, see Rec. No. 294], p. 178-179. b. Importation of Phylloxera into France, p. 348. c. The Colorado Potato-bug [migrations and habits of, and means against *Doryphora 10-lineata*];